

# IDAHO BLM

## TECHNICAL BULLETIN

AN ILLUSTRATED GUIDE TO THE  
SENSITIVE PLANTS OF BOISE DISTRICT  
BUREAU OF LAND MANAGEMENT, 1988

by

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## INTRODUCTION

This collection of information includes all known sensitive plant species in the Boise District. It was compiled for use as a reference and for field personnel, containing line drawings when available.

The plants are arranged in alphabetical order by genera. An index of common names has been included for those unfamiliar with Latin names. Each plant has been placed in one or sometimes two soil and vegetation type categories. This information is also available within the narrative descriptions, but the categories will provide a more rapid way to reference habitat information.

Plant nomenclature follows that of Hitchcock and Cronquist in their Flora of the Pacific Northwest (1973). Illustrations are from various sources, including Flora of the Pacific Northwest, Intermountain Flora, Threatened and Endangered Plants of Nevada, and Threatened and Endangered Vascular Plants of Oregon.

LIST OF SENSITIVE PLANTS IN THE BOISE DISTRICT

Allium aaseae (Aase's Onion)  
Artemisia packardiae (Packard's Sagebrush)  
Astragalus atratus var. insepatus (Mourning Milk-vetch)  
Astragalus atratus var. owyheensis (Owyhee Mourning Milk-vetch)  
Astragalus camptopus (Murphy Milk-vetch)  
Astragalus mulfordiae (Mulford's Milk-vetch)  
Astragalus sterilis (Barren Milk-vetch)  
Astragalus vallis (Snake Canyon Milk-vetch)  
Astragalus yoder-williamsii (Osgood Mountains Milk-vetch)  
Camassia cusickii (Cusick's Camas)  
Chaenactis cusickii (Cusick's False Yarrow)  
Cryptantha propria (Malheur Cryptantha)  
Cymopterus acaulis var. greeleyorum (Greeley's Parsley)  
Dimersia howellii (Dimersia)  
Eatonella nivea (White Eatonella)  
Epipactis gigantea (Giant Helleborine)  
Erigeron latus (Broad Fleabane)  
Eriogonum salicornoides (Annual Salt Eriogonum)  
Eriogonum shockleyi var. shockleyi (Matted Cowpie Buckwheat)  
Glyptopleura marginata (White Margined Wax Plant)  
Gymnosteris nudicaulis (Large Flowered Gymnosteris)  
Gymnosteris parvula (Small Flowered Gymnosteris)  
Hackelia ophiobia (Rattlesnake Stickseed)  
Haplopappus radiatus (Snake River Goldenweed)  
Lepidium davisii (Davis Peppergrass)  
Leptodactylon glabrum (Bruneau River Prickly Phlox)  
Lupinus uncialis (Inch High Lupine)  
Malacothrix glabrata (Desert Dandelion)  
Malacothrix torreyi (Torrey's Malacothrix)  
Mentzelia mollis (Smooth Stickleaf)  
Mentzelia torreyi var. acerosa (Torrey's Blazing Star)  
Nemacladus rigidus (Rigid Threadstem)  
Pediocactus simpsonii var. robustior (Simpson's Hedgehog Cactus)  
Peraphyllum ramosissimum (Squaw Apple)  
Peteria thompsonae (Spine-Noded Milk-vetch)  
Phacelia lutea var. calva (Yellow Phacelia)  
Phacelia minutissima (Least Phacelia)  
Primula wilcoxiana (Wilcox's Primrose)  
Stipa webberi (Webber's Needlegrass)  
Stylocline filaginea (Hooked Stylocline)  
Texosporium sancti-jacobi (Texas Spored Lichen)  
Trifolium owyheense (Owyhee Clover)

ALPHABETICAL LISTING OF COMMON NAMES

Aase's Onion (*Allium aaseae*)  
Annual Salt Eriogonum (*Eriogonum salicornoides*)  
Barren Milk-vetch (*Astragalus sterilis*)  
Broad Fleabane (*Erigeron latus*)  
Bruneau River Prickly Phlox (*Leptodactylon glabrum*)  
Cusick's Camas (*Camassia cusickii*)  
Cusick's False Yarrow (*Chaenactis cusickii*)  
Davis Peppergrass (*Lepidium davisii*)  
Desert Dandelion (*Malacothrix glabrata*)  
Dimersia (*Dimersia howellii*)  
Giant Helleborine (*Epipactis gigantea*)  
Greeley's Parsley (*Cymopterus acaulis* var. *greeleyorum*)  
Hooked Stylocline (*Stylocline filaginea*)  
Inch High Lupine (*Lupinus uncialis*)  
Large Flowered Gymnosteris (*Gymnosteris nudicaulis*)  
Least Phacelia (*Phacelia minutissima*)  
Malheur Cryptantha (*Cryptantha propria*)  
Matted Cowpie Buckwheat (*Eriogonum shockleyi* var. *shockleyi*)  
Mourning Milk-vetch (*Astragalus atratus* var. *inseptus*)  
Mulford's Milk-vetch (*Astragalus mulfordiae*)  
Murphy Milk-vetch (*Astragalus camptopus*)  
Osgood Mountains Milk-vetch (*Astragalus yoder-williamsii*)  
Owyhee Clover (*Trifolium owyheense*)  
Owyhee Mourning Milk-vetch (*Astragalus atratus* var. *owyheensis*)  
Packard's Sagebrush (*Artemisia packardiae*)  
Rattlesnake Stickseed (*Hackelia ophiobia*)  
Rigid Threadstem (*Nemacladus rigidus*)  
Simpson's Hedgehog Cactus (*Pediocactus simpsonii* var. *robustior*)  
Small Flowered Gymnosteris (*Gymnosteris parvula*)  
Smooth Stickleaf (*Mentzelia mollis*)  
Snake Canyon Milk-vetch (*Astragalus vallis*)  
Snake River Goldenweed (*Haplopappus radiatus*)  
Spine-Noded Milk-vetch (*Peteria thompsonae*)  
Squaw Apple (*Peraphyllum ramosissimum*)  
Texas Spored Lichen (*Texosporium sancti-jacobi*)  
Torrey's Blazing Star (*Mentzelia torreyi* var. *acerosa*)  
Torrey's Malacothrix (*Malacothrix torreyi*)  
Webber's Needlegrass (*Stipa webberi*)  
White Eatonella (*Eatonella nivea*)  
White Margined Wax Plant (*Glyptopleura marginata*)  
Wilcox's Primrose (*Primula wilcoxiana*)  
Yellow Phacelia (*Phacelia lutea* var. *calva*)

## Plant Distribution by Soil Characteristics

### Coarse Sand

*Allium aaseae*  
*Astragalus mulfordiae*  
*Cymopteris acaulis* var. *greeleyorum*

### Fine Alluvial Sand

*Astragalus camptopus*  
*Astragalus kentrophyta* var. *jessiae*  
*Eatonella nivea*  
*Gymnosteris nudicaulis*  
*Gymnosteris parvula*  
*Malacothrix glabrata*  
*Malacothrix torreyi*  
*Mentzelia torreyi* var. *acerosa*

### Volcanic Ash

*Astragalus sterilis*  
*Chaenactis cusickii*  
*Cryptantha propria*  
*Cymopteris acaulis* var. *greeleyorum*  
*Eriogonum salicornoides*  
*Glyptopleura marginata*  
*Malacothrix glabrata*  
*Malacothrix torreyi*  
*Mentzelia mollis*  
*Nemacladus rigidus*  
*Phacelia lutea* var. *calva*  
*Trifolium owyheense*

### Volcanic Cinder

*Astragalus yoder-williamsii*  
*Dimersia howellii*  
*Eatonella nivea*  
*Erigeron latus*  
*Glyptopleura marginata*  
*Gymnosteris nudicaulis*  
*Gymnosteris parvula*  
*Lupinus uncialis*  
*Mentzelia torreyi* var. *acerosa*  
*Nemacladus rigidus*  
*Peteria thompsonae*  
*Stylocline filaginea*

### Rhyolite Cliffs

*Artemisia packardiae*  
*Hackelia ophiobia*  
*Leptodactylon glabrum*

### Clay Loam

*Astragalus vallis*  
*Peraphyllum ramosissimum*  
*Primula wilcoxiana*  
*Stipa webberi*  
*Texosporium sancti-jacobi*

### Silt Loam

*Astragalus yoder-williamsii*  
*Camassia cusickii*  
*Haplopappus radiatus*

### Calcareous Hot/Cold Springs

*Epipactis gigantea*

### Playa or Natric Sites

*Lepidium davisii*  
*Lepidium montanum* var.  
*papilliferum*

### Thin Soil over Basalt

*Astragalus atratus* var.  
*inseptus*  
*Astragalus atratus* var.  
*owyheensis*  
*Malacothrix torreyi*  
*Pediocactus simpsonii* var.  
*robustior*  
*Stipa webberi*  
*Stylocline filaginea*

## Plant Distribution by Vegetation Types

### Sagebrush-Grassland

*Artemisia atratus* var. *inseptus*  
*Cryptantha propria*  
*Dimersia howellii*  
*Gymnosteris nudicaulis*  
*Gymnosteris parvula*  
*Haplopappus radiatus*  
*Peraphyllum ramosissimum*  
*Primula wilcoxiana*  
*Stipa webberi*

### Wyoming Big Sage

*Astragalus camptopus*  
*Erigeron latus*  
*Eriogonum salicornoides*  
*Lepidium davisii*  
*Lepidium montanum* var. *papilliferum*  
*Nemacladus rigidus*  
*Trifolium owyheense* (on ash  
surrounded by Wyoming Sage)

### Wyoming Sage-Shadscale

*Astragalus camptopus*  
*Astragalus kentrophyta* var. *jessiae*  
*Cymopterus acaulis* var. *greeleyorum*  
*Eatonella nivea*  
*Eriogonum shockleyi* var. *shockleyi*  
*Glyptopleura marginata*  
*Mentzelia mollis*  
*Mentzelia torreyi* var. *acerosa*  
*Nemacladus rigidus*  
*Phacelia lutea* var. *calva*

### Salt Desert Shrub

*Astragalus camptopus*  
*Chaenactis cusickii*  
*Eatonella nivea*  
*Eriogonum salicornoides*  
*Lepidium davisii*  
*Malacothrix torreyi*  
*Mentzelia mollis*  
*Mentzelia torreyi* var. *acerosa*  
*Peteria thompsonae*  
*Phacelia lutea* var. *calva*

### Low Sage

*Astragalus atratus* var. *owyheensis*  
*Astragalus yoder-williamsii*  
*Erigeron latus*  
*Pediocactus simpsonii* var. *robustior*

### Mountain Big Sage

*Astragalus yoder-williamsii*  
*Phacelia minutissima*  
*Primula wilcoxiana*

### Bitterbrush-Bluebunch Wheatgrass

*Allium aseae*  
*Astragalus mulfordiae*  
*Astragalus sterilis*  
*Astragalus vallis*  
*Camassia cusickii*

### Rabbitbrush

*Malacothrix glabrata*  
*Texosporium sancti-jacobi*

### Rhyolite Canyons

*Artemisia packardiae*  
*Hackelia ophiobia*  
*Leptodactylon glabrum*

### Calcareous Springs (hot or cold)

*Epipactis gigantea*

### Eriogonum thymoides

*Stipa webberi*

### Mountain Brush

*Peraphyllum ramosissimum*

(These vegetation types are generalizations of where a plant may occur. Some species are not so easily classified, and may occur in several vegetative zones.)

Allium aaseae (Aase's Onion)

Family: Liliaceae (Lily)

Status: Federal Category I (C1) recommended for Threatened status

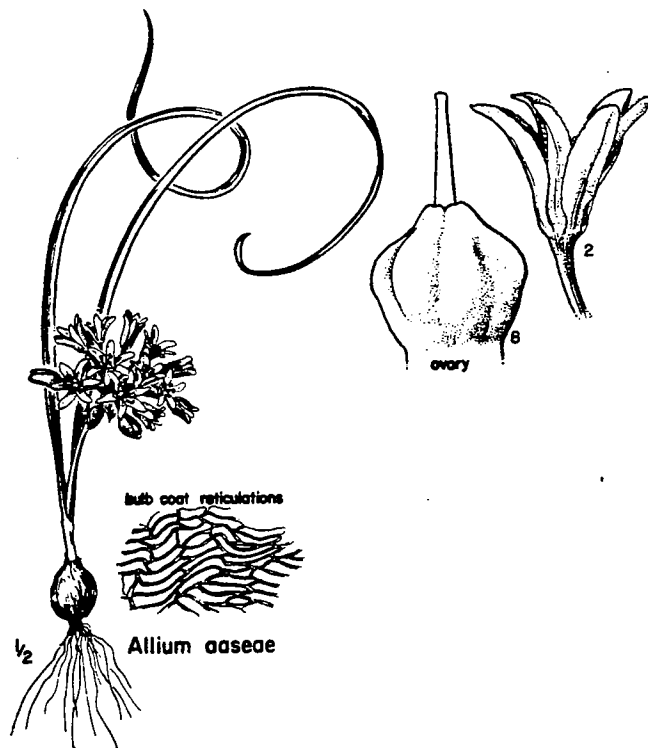
Known Locations: Ada, Boise, Gem Counties, Idaho

T6N, R1W, Sec. 1,2,3,10,11,12 Sand Hollow  
T6N, R1W, Sec. 21,22,23,24, Pearl Mining Claims  
T6N, R1W, Sec. 33,34 Willow Creek  
T6N, R1E, Sec. 24,36  
T6N, R2E, Sec. 28,34 Cartwright Canyon  
T5N, R1E, Sec. 1,4,7,8,9,10,14,15,17 22-28 West of Spring Valley  
T5N, R2E, Sec. 27,34 Dry Creek Valley  
T4N, R1E, Sec. 13 Seamen Gulch  
T4N, R2E, Sec. 6-9, 15,16,17,20,21,23,25,26,34,35,36 Boise Foothills  
T4N, R3E, Sec. 20,21 Hull's Gulch  
T3N, R2E, Sec. 1,2 Cottonwood Creek

Soil Type: Lolilita coarse silica sand

Habitat and Ecology: A small perennial onion growing in coarse sandy soil, often with bitterbrush. Sites are on south, west, and occasionally east-facing slopes in the sagebrush-grassland zone, and are usually found on or near ridgetops. Found from 2,850 feet up to 5,000 feet. Aase's onion blooms from as early as February until mid-May.

Threats: Urbanization, sand mining, off-road vehicles, invasion of annual weedy grasses and other exotics.



Key Characteristics

Two leaves, twice as long as stem  
Flowers deep pink, usually laying  
on the soil surface  
Early bloomer  
Coarse sandy soils

Artemisia packardiae (Packard's Sagebrush)

Family: Asteraceae (Composite)

Status: Review species on the State Sensitive Plant List

Known Locations: Owyhee County, Idaho  
Malheur County, Oregon  
Elko, Humboldt Counties, Nevada

Idaho

T10S, R3W, Sec. 27 Deep Creek off the Owyhee River

T14S, R1W, Sec. 18 The Tules, E Fork Owyhee River

T15S, R4W, Sec. 15

T15S, R4W, near the junction of Red Canyon

Little Jacks Creek RNA

The East Fork of the Owyhee River, from the pipeline crossing to Red Canyon  
Cottonwood Creek of Big Jack's drainage

Soil Type: Rhyolitic cliffs, usually of mesic microsites or E or N faces

Habitat and Ecology: A perennial herb with a strong smell, found only on vertical rhyolite cliffs. The plant appears to be restricted to the Owyhee and Humboldt River drainages, but more work on its biology and taxonomy is needed. It is found at elevations from 4,000-5,500 feet. The plant's foliage is dark green, leaves lack surface hairs, and its odor is not sagebrush-like. More collections should be made to determine its range. Blooms May to July.

Threats: None known

Key Characteristics

Restricted to rhyolite cliffs

Leaves sticky and with a  
strong odor

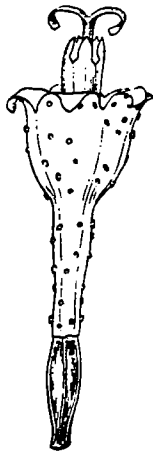
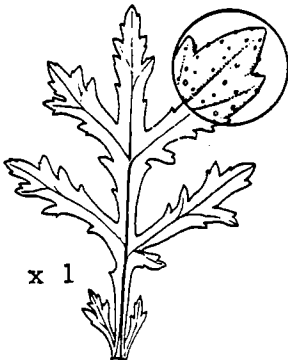
Flowers yellow

Plants 20-50 cm tall



Artemisia packardiae

Packard's Sagebrush



Astragalus atratus var. inseptus (Mourning Milk-Vetch)

Family: Fabaceae (Legume)

Status: Federal Category II (C2) recommended for Threatened status

Known Locations: Blaine, Camas, Gooding, Lincoln Counties, Idaho

T1S, R20E, North of Picabo on sage hillsides  
T2S, R16E, Sec. 12 West of Magic Reservoir  
T2S, R18E, Sec. 3 NW, 18 SWNE & NENW & N1/2, 20 SENE  
T3S, R16E, Sec. 6 NENW near junction of Lincoln, Camas, and Gooding  
Counties  
T3S, R20E, Sec. 10 SESW & NWNE, 19 SENE  
T4S, R16E, Sec. 18 Preacher Creek NE of Gooding  
T6S, R13E, Sec. 20 SE South of Bliss  
T3S, R17E, Sec. 27 SE South of Shoshone  
T7S, R13E, Sec. 32 near Buckeye Ranch SW of Hagerman

Soil Type: Thin rocky soil over basalt

Habitat and Ecology: A perennial found on thin soil over basalt that is wet in spring but dry at other seasons. Clumps of this plant blend in well with the surrounding grasses due to the narrow leaves. Often grows with Idaho fescue. ± 5,000 feet elevation. Blooms May to June.

Threats: Range improvement programs and grazing

Key to two varieties of Astragalus atratus:

1. Leaflets all very small, narrow, and remote, the terminal one continuous with the rachis or represented by a small dilation of the rachis; pod of papery texture; sagebrush slopes .....var. owyheensis
1. Leaflets more ample and less scattered, the terminal one jointed to the rachis; pod of leathery texture; stony flats where moist in spring  
.....var. atratus  
(see drawing on next page)

Key Characteristics

Flowers white, sometimes  
faintly lilac-tinged  
Leaflets 9-15, terminal  
one jointed to the stem  
Pods with leathery  
texture  
Pods 12-18 mm long & 3-4 mm  
wide

Astragalus atratus var. owyheensis (Owyhee Mourning Milk-Vetch)

Family: Fabaceae (Legume)

Status: Sensitive on the BLM and State Sensitive Plant Lists

Known Locations: Elmore, Owyhee, Twin Falls Counties, Idaho  
Baker, Malheur Counties, Oregon  
Elko County, Nevada

Idaho

T2S, R9E, Sec. 18 Bennett Mountain area  
T3S, R4W, Sec. 2 14 miles W of Murphy, near Babbington Creek  
T5S, R9E, Sec. 34 two miles W of Glenn's Ferry  
T7S, R13E, Sec. 32 SW of Hagerman, Peter's Gulch area  
T9S, R13E, Sec. 11 Salmon Falls Creek  
T14S, R1E, Sec. 26 SW of Shoo Fly Creek  
T14S, R13E, Sec. 7 E of Devil Creek  
T16S, R9E, Sec. 11 near Murphy Hot Springs

Bennett Mountain area

above the "Hot Hole" of the East Bruneau (historic collection)

Near the dam at Salmon Falls Creek

Soil Type: Gravelly flats and steep slopes on basalt

Habitat and Ecology: A perennial with many very slender, often prostrate and creeping to erect stems. Found on steep hillsides and gravelly flats, on basalt, usually taking shelter under and entangled in low sagebrush. From 3,500 to 6,000 feet. Often on bluffs overlooking the Snake River Canyon. Its leaves blend in with the leaves of grass and are not easily noticed. Blooms from May to July

Threats: Range improvement programs, overgrazing, agricultural development

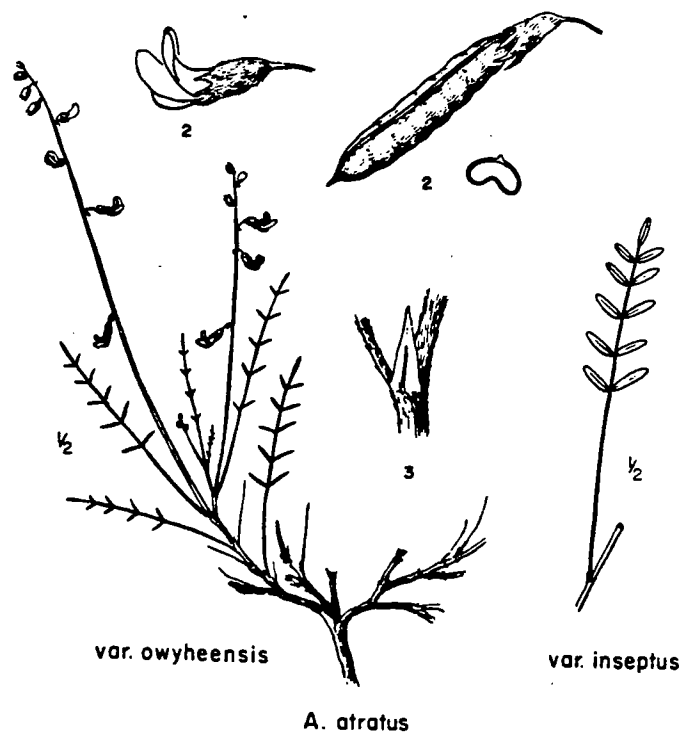
Key Characteristics:

Flowers whitish, purplish-lined  
or -tinged and 8-9 mm long

Leaflets 7-11, terminal one  
continuous with the stem

Pod 14-20 mm long & 3-4 mm wide  
Pod of papery texture

(see key on previous page)



Astragalus camptopus (Murphy Milk-Vetch)

Family: Fabaceae (Legume)

Status: Federal Category 3C and Sensitive on the BLM and State Sensitive Plant Lists

Known Locations: Owyhee County, Idaho

T1S, R2W, Sec. 28,29,33,34 S of Melba  
T2S, R2W, Sec. 3,4,23,32 Murphy area  
T2S, R5E, Sec. 20 Squaw Creek  
T3S, R2W, Sec. 10,12 S of Murphy  
T6S, R3E, Sec. 34,22 about 10 miles S of Grandview  
T6S, R5E, Sec. 24 Bruneau  
T7S, R2E, Sec. 14 15 miles SW of Grandview  
T7S, R3E, Sec. 2,3,4,5,7,9 Shoofly Creek area, S of Grandview  
T7S, R5E, Sec. 5,20 NWNW,21,30,31 8-11 miles SW of Bruneau  
T7S, R6E, Sec. 7 S of Bruneau  
T7S, R3W, Sec. 4 Rabbit Creek, 3 miles S of Walter's Ferry  
T8S, R5E, Sec. 6 12 miles S of Bruneau  
T8S, R6E, Sec. 20 6 miles SW of the town of Hot Spring  
Wiese's Bar of Snake River

Soil Type: Arid sandy soil

Habitat and Ecology: A perennial plant endemic to the area between Murphy and Bruneau. It is found only on sandy soils in shadscale-horsebrush-greasewood habitat. Also in the Wyoming big sage-Sandberg bluegrass zone. Found from 2,400-3,200 feet. It often grows in extensive colonies and has been found along roadsides and streambeds. Blooms May and June.

Threats: Increased agriculture, off-road vehicles, and range improvement programs

Key Characteristics

Pods forming more than  
a complete circle  
Flowers bright purple  
Restricted habitat  
Grows in colonies

Astragalus kentrophyta var. jessiae (Thistle Milk-Vetch)

Family: Fabaceae (Legume)

Status: Sensitive on the BLM and State Sensitive Plant Lists

Known Locations: Butte, Owyhee Counties, Idaho  
Sweetwater, Sublette, Fremont Counties, Wyoming  
Malheur County, Oregon

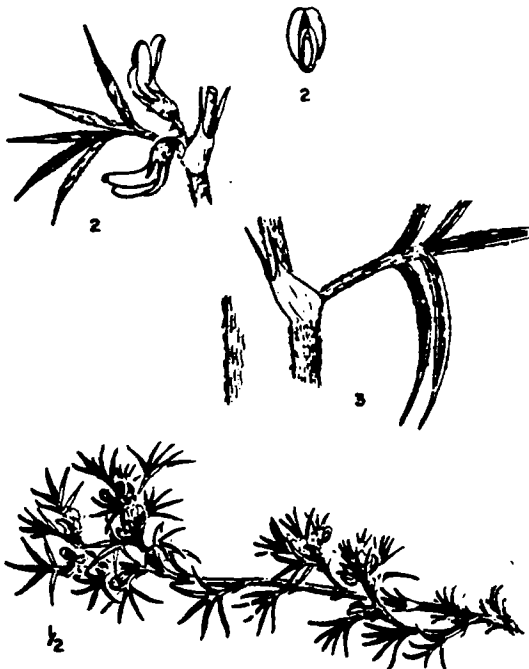
Idaho

T4S, R1W, Sec. 4 West of Fossil Butte, 10 miles E of Murphy  
T4S, R1W, Sec. 23,24 NW of Oreana  
T5S, R3E, Sec. 7 NW of Grand View  
T6S, R6E, Sec. 18 one mile N of Bruneau  
T7S, R5E, Sec. 5,31 SW of Bruneau, six and eleven miles respectively  
T7S, R6E, Sec. 36 eight miles SE of Bruneau  
T8S, R7E, Sec. 6 nine miles SE of Bruneau in Seventy-one Mile Gulch  
T9S, R5E, Sec. 5 Sugar Creek  
INEL (Idaho National Engineering Laboratory)  
Fish fossil beds SE of Walter's Ferry Bridge

Soil Type: Barren, fine alluvial sandy and shale soils

Habitat and Ecology: A perennial found on sandy bluffs, gravelly hilltops, gullied knolls, and dunes or dunelike sandy flats. From 2,450-3,200 feet in elevation along the south affluents of the Snake River in Owyhee County, in the Wyoming big sage zone. On soils subject to severe erosion. Commonly with shadscale and greasewood. In open stands of Utah juniper in Butte County (INEL). Blooms June to August

Threats: Off-road vehicles, agricultural developments, desert land entries



Key Characteristics

Prostrate, loosely matted  
foliage becomes prickly  
with age  
Flowers whitish, sometimes  
faintly pink- or lilac-tinged  
Atypical Astragalus leaf shape

Astragalus mulfordiae (Mulford's Milk-Vetch)

Family: Fabaceae (Legume)

Status: Federal Category I (C1) recommended for Endangered status

Known Locations: Ada, Owyhee, Payette, Washington Counties, Idaho  
Malheur County, Oregon (historic site)

Idaho

T1S, R3W, Sec. 14 Reynolds Creek area  
T2S, R1W, Sec. 6 NW historic record, near Halverson Lake  
T5S, R3E, Sec. 11,22 near Grand View  
T7S, R3E, Sec. 5 Oolitic limestone site, 12 miles S of Grand View  
T7S, R5E, Sec. 20 seven miles SW of Bruneau, apparently extirpated  
T3N, R2E, Sec. 2 SWNE & NW & NESW & center, 12,14 Military Reserve Park  
T4N, R2E, Sec. 15,35 SESE,36 SESW Boise Foothills  
T9N, R5W, Sec. 12 NE historic record, eight miles NE of Payette  
T10N, R5W, Sec. 36 Sand Hollow NE of Payette  
T11N, R4W, Sec. 21 SWNW,28 NWNWNW,32 NWNESW & SENW Rebecca Sand Hill  
T11N, R5W, Sec. 26,29,35 Sagebrush Hill east of Weiser

Soil Type: Deep sandy soil

Habitat and Ecology: A very deep rooted perennial found on south or west-facing sandy slopes of alluvial deposits and dunelike talus in the foothills. Grows in the sagebrush-grassland life zone at the west end of the Snake River Plain from 2,000-3,000 feet. Blooms from May to June.

Threats: Urbanization and grazing. It appears to be destroyed by grazing and is now only found in pristine sites.

Key Characteristics

Flowers white, 6-8 mm long  
Leaflets 15-25, scattered  
Pods 10-16 mm long with  
a 3-sided cross-section

Astragalus mulfordiae

Mulford's Milk-Vetch

